NASA Welding Technology Transfer to Private Industry

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The transfer of NASA- and NASA contractor-derived welding technology (fig. 117) by MSFC is benefiting three firms in the Southeast:

- Headquartered in Louisiana, Frymaster Corporation, the world's largest manufacturer of commercial deep-fat fryers, is using remote weld-bead seam-tracking technology originally developed for use on the external fuel tank of the space shuttle. The technology was developed for NASA at the Michoud Assembly Facility by Martin Marietta, the plant's contractor operator.

- The robotic weld-bead seam-tracker sensor technology has also been used at a major Alabama manufacturer of air conditioners. The technology proved successful when applied to girth-welding operations on air-conditioner compressors. During the first day of operation, 320 compressors were manufactured with only two incidents being reported—both of which were attributable to operator inexperience with the system.

- Memphis Drum Service, Inc., in Tennessee has studied using the robotic weld-bead seam-tracker sensor technology in recycling 55-gallon drums. The company had been having a problem with intense heat (required for cleaning and sterilization of the drums) destroying the rubber seals between the inside of the drum lid and the outside flanges, which caused drums to leak when filled with certain liquids. The options of using another recycled type of lid-flange configuration or purchasing a new lid were both expensive. MSFC identified a method of restoring the seal through robotic welding system technology.

Sponsor: Office of Commercial Development and Technology Transfer

Industry Involvement: Frymaster Corporation, Louisiana; Memphis Drum Service, Inc., Memphis, Tennessee; Martin Marietta

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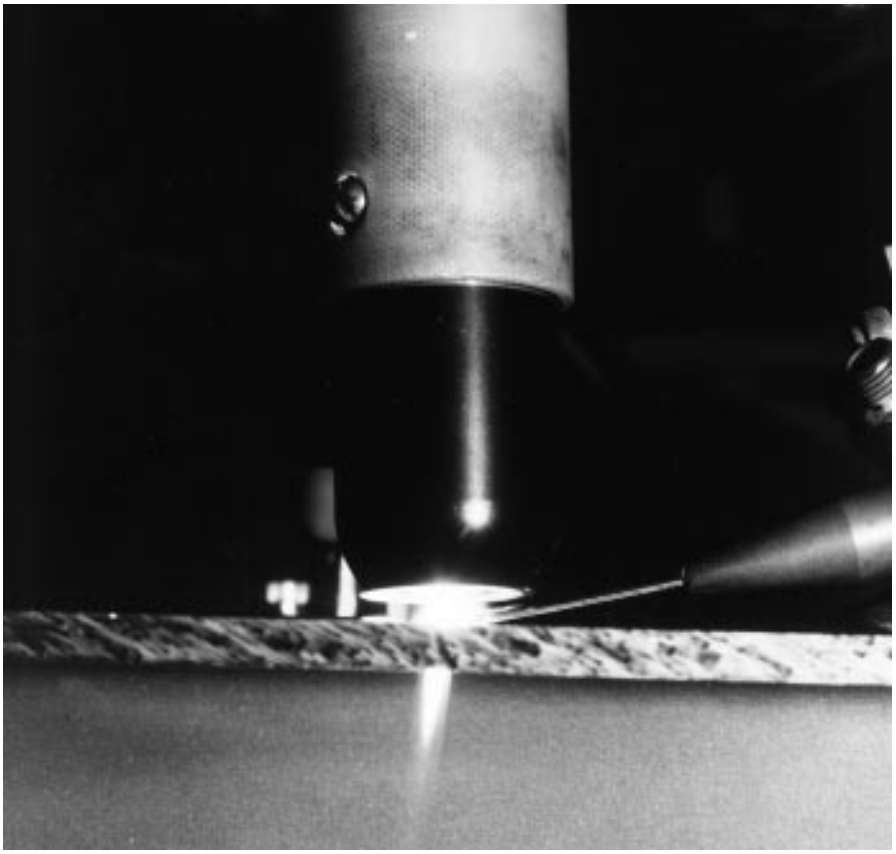

FIGURE 117.—Vertical welding tool of the Productivity Enhancement Complex.